LOW-PRESSURE PLASMA WORKING METHOD

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Inventor: SUZUKI MOTOAKI; MATSUDA MINORU; KOSUGE SHIGECHIKA; ONO MORIAKI; NAKADA KIYOKAZU; WATANABE ITARU

Applicant: NIPPON KOKAN KK

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Abstract of **JP62211363**

PURPOSE:To form a coating layer having excellent adhesiveness, corrosion resistance, etc., by subjecting a metal which is the base material for ceramics to low-pressure plasma spraying onto a metallic base material, then implanting an element which forms ceramics by binding with the above-mentioned base material. CONSTITUTION:A voltage is impressed between an electrode 13 and a water- cooled copper nozzle 12 from a DC power source 22 to generate a glow discharge and to form a plasma jet 31 of a working gas 14 such as Ar in a low- pressure atmosphere. Metallic powder 19 of Ti, etc., which is the base material for the ceramics is thermally sprayed into the above-mentioned plasma jet 31 to form a thermally sprayed film 32 of the above-mentioned metal on the metallic base material 11. The plasma jet of N2 or the like which forms the ceramics by binding with the above-mentioned base material 11 is then blown. The metallic film 32 is thereby converted to ceramics such as TiN by which the ceramic coating layer having the excellent adhesive powder, uniformity, corrosion resistance, wear resistance, etc., is formed.